

In the Drawings

Applicant has herewith submitted Replacement Sheet of drawings for Figure 6. The previously submitted sheet of drawings for Figure 6 is withdrawn. Applicant has submitted this replacement drawing for figure 6 which includes the identification of element 84 as in the original drawings. No new matter is added by this amendment.

### **Response**

In response to the Examiner's specific objections to the drawings, Applicant believes the Examiner's objections to the drawings were based upon an administrative error with regard to the amended specification, claims and drawings previously submitted on December 15, 2004. Although the Examiner acknowledged the acceptance of the replacement drawing of figure 4 in the 3/24/05 Office Action Summary, and acknowledged the entry of the substitute specification and the withdrawal of the original drawing figures 4, 6 and 7 in paragraph 2 of the 3/24/05 Office Action, the publication of this application in Publication No. US 2005/0087379 A1 on 4/28/05 only reflects the substitution of the replacement drawing of figure 4 for original figure 4. The substitute specification and Applicant's request for withdrawal of the original drawing figures 6 and 7 are not reflected in the publication. The whole publication reflects the original specification and figures except for replacement figure 4 which is the same the original figure 5; therefore figure 4 and 5 are the same drawings in the published application.

In response to the 3/24/05 Office Action, on 9/26/05 Applicant submitted a subsequent substitute specification along with corresponding replacement drawings for figures 4-7. In the pending Office Action, this second substitute specification was disapproved by the Examiner for inclusion into the pending application. In the pending Office Action, the Examiner also objected to replacement drawings for figures 4-7 on the basis that they do not correlate with the original drawing figures 4-7. In response to the Examiner's objection, Applicant states that the replacement drawings for figures 4-7 were

intended to correspond with the previous substitute specification which was disapproved. To resolve the Examiner's objection to the drawings, Applicant herewith submits a substitute specification which corresponds to original drawings of figures 1-3 and to replacement drawings for figures 4-7. Applicant has also submitted replacement drawings for figure 6 which include the identification of element 84 as in the original drawings.

For clarification, original figures 5 and 7 are now replacement figures 4 and 6 respectively, and replacement figures 5 and 7 are end views of the jackshafts in replacement figures 4 and 6 respectively. Therefore, the replacement drawing figures 4-7 do not contain any new matter. In view of the foregoing amendments and remarks, Applicant respectfully requests withdrawal of the objections to the drawings.

Paragraphs 22 and 38 of the original specification which contained the description of the embodiment depicted in the original figure 7 are incorporated into the present substitute specification with corrections for the appropriate figure and embodiment numbers as the description for the same embodiment. Consequently the substitute specification does not contain any new matter beyond the original application. In view of the foregoing corrections and remarks, Applicant respectfully requests withdrawal of the objections to the substitute specification; and please amend the specification of this application as reflected in the substitute specification submitted herewith. A marked up version of the substitute specification is also submitted herewith.

Turning now to the prior art rejections, in the Office Action, the Examiner has rejected Claims 1, 2, 5, 44, 45, 47, 48, 54, 55, 57 and 58 under 35 U.S.C. § 102(a) as being anticipated by Gelhard, patent no. 4,541,500 and Claims 3, 4, 46 and 56 as obvious

over Gelhard in view of Rudwick, patent no. 4,280,581. The Examiner contends that Gelhard discloses all of the elements of Claims 1, 2, 5, 44, 45, 47, 48, 54, 55, 57 and 58, and that Rudwick shows the additional element of Claims 3, 4, 46 and 56 of the rear hub having internal gears. For the reasons presented below, reconsideration and withdrawal of the rejections respectfully are solicited.

### **Background**

Before discussing the Examiner's specific grounds of rejection, it would be useful to briefly review the claimed invention, which is generally directed to a system and method for a vehicle, having a drive wheel, an electric motor, and foot pedals, that can be driven efficiently either by the pedals, through the motor, or by the motor alone without turning the pedals, or by both the pedals and the motor in unison. This is accomplished by use of two drive elements. One is a chain drive from the rotating element of the motor to the rear wheel. The other is a single stage, uni-directional, up-speed drive directly connected between the rotating element of the motor and the pedal shaft (as shown in Figure 2 and described in paragraph 12 and 26 of the specification) that provides for transferring rotary motion from the pedal crank to the motor, but not from the motor to the crank. As is well known in the art and as explained in the specification, a single stage up-speed drive consists of a set of meshing gears, a single continuous belt engaging pulleys, a single continuous chain engaging sprockets, or the like, each of which having all gears, sprockets or pulleys rotating in a single plane, and having only one shaft or equivalent device, such as a pedal shaft, to receive input power and only having only one shaft or equivalent device for output power, such as a rotatable assembly of a motor or a jackshaft. Thus Applicant's single stage, uni-directional, up-speed drive incorporates a correctly oriented freewheel or other uni-directional drive device, such as a

clutch bearing, in either the input or the output portion of the drive. This single stage, uni-directional, up-speed drive provides the rider with the ability to drive the motor, and, in turn, the rear wheel by pedaling, but does not turn the pedals, when the bicycle is being driven by the motor alone.

For clarification, Claims 1, 44 and 54, independent claims from which the remaining rejected claims depend, have been amended to describe the single stage, uni-directional, up-speed drive in more detail: “a single stage, uni-directional, up-speed drive engaging the rotatable assembly of said motor and said pedal crank assembly for transferring rotary motion from said pedal crank to said motor, but not from said motor to said crank.” This essential limitation of the amended claims, the single stage uni-directional drive directly connecting the motor and the pedal crank assembly, is not found in Gelhard.

#### Response to Grounds of Rejection

##### Claims 1, 2, 5, 44, 45, 47, 48, 54, 55, 57 and 58

Gelhard can not anticipate these claims, as Gelhard does not disclose all the elements of the amended, rejected independent claims 1, 44 and 54. Specifically, Gelhard does not disclose a single stage uni-directional drive engaging the rotatable assembly of said motor and said pedal crank for transferring rotary motion from the pedal crank to the motor only, and not vice-versa.

Amended claim 1 requires, among other things:

a frame;

a wheel, having a hub with at least one sprocket, said wheel rotatably mounted in said frame;

an electric motor, having a rotatable assembly and a fixed assembly, said motor mounted to said frame by said fixed assembly;

a sprocket fixedly mounted to said rotatable assembly of said motor;

chain engaged to said motor sprocket and a sprocket on said hub for transferring rotary motion from said motor to said wheel;

a pedal crank assembly rotatably mounted in said frame;

***a single stage, uni-directional, up-speed drive engaging the rotatable assembly of said motor and said pedal crank assembly for transferring rotary motion from said pedal crank to said motor, but not from said motor to said crank,***

whereby said vehicle can be driven either by said pedal crank, through said motor, or by said motor alone without turning said pedal crank, or by both said pedal crank and said motor in unison. (Emphasis added.)

By contrast, Gelhard does not teach “a single stage, uni-directional, up-speed drive engaging the rotatable assembly of said motor and said pedal crank assembly for transferring rotary motion from said pedal crank to said motor, but not from said motor to said crank.” Consequently, neither can Gelhard meet the claim limitation that “said vehicle can be driven by said pedal crank, through said motor”. Nor can the Gelhard drive even turn the motor with the pedals without adding one more drive element, two more freewheels, and a manually operated clutch.

Although Gelhard is unclear and incomplete in many aspects, it apparently attempts to discuss two drive mechanisms, the first of which having the pedals and the

motor drive the rear hub separately through separate chains 13 and 17, as shown in Figure

2. Gelhard fails to teach a specific, coherent, embodiment of this complete drive.

Gelhard states that two freewheeling devices are provided in the rear wheel boss (Col. 3, Ln. 48 and 49), but fails to indicate how they are configured.

The second drive mechanism discussed in Gelhard, corresponding to Figure 4, has a common chain 45 driven by both the pedals (through chainwheel 12), and the motor 15, which drives the chain 45 through the driving pinion 16 and intermediate pinion 31. In this second description, the driving pinion 16 (powered by the motor) and the chainwheel 12 (powered by the pedals) are each provided with their own freewheeling device (Col. 3, Ln. 32-35). Accordingly, the pedals cannot drive the motor, because the freewheeling device on driving pinion 16 prevents the chain 45 driven by the pedals from overdriving the motor (Col. 3, ln. 32-33). Therefore there is no mechanism disclosed in Gelhard's second drive for "transferring rotary motion from said pedal crank to said motor" as required by applicant's claims.

Accordingly, Gelhard does not disclose or even suggest "a single stage, uni-directional, up-speed drive engaging the rotatable assembly of said motor and said pedal crank assembly for transferring rotary motion from said pedal crank to said motor, but not from said motor to said crank." Because this essential element is lacking in Gelhard, Gelhard cannot anticipate claim 1, 44 or 54 of the present invention and the Examiner's rejection should be withdrawn in light of Applicant's amended claims and the above clarification.

It is well settled that anticipation requires "identity of invention."

*Glaverbel Societe Anonyme v. Northlake Mktg. & Supply*, 33 U.S.P.Q.2d 1496, 1498

(Fed. Cir. 1995). Each and every element recited in a claim must be found in a single prior art reference and arranged as in the claim. *In re Marshall*, 198 U.S.P.Q. 344, 346 (CCPA 1978); *Lindemann Maschinenfabrik GmbH v. American Hoist and Derrick Co.*, 221 U.S.P.Q. 481, 485. There must be no differences between what is claimed and what is disclosed in the prior art reference. *In re Kalm*, 154 U.S.P.Q. 10, 12 (C.C.P.A. 1967).

Thus, since Gelhard does not disclose each and every element cited in the pending claims, there is no identity of invention between the pending application and the Gelhard reference. Accordingly, and inasmuch as the sole consideration under § 102 is whether the claims of an application are anticipated by a single reference, the § 102 rejection is insufficient as a matter of law, and must be withdrawn. *Marshall*, 198 U.S.P.Q. at 346; *Lindermann*, 221 U.S.P.Q. at 485.

Further, for the same reason, Gelhard cannot serve as a valid reference for claim rejections under 35 U.S.C. § 103(a). Although applicant respectfully asserts that neither of the two cited patents disclose or suggest other limitations included in the rejected claims, applicant believes that the absence of the single stage, uni-directional, up-speed drive alone, as discussed above, resolves the Examiner's concern. Accordingly, in the interest of efficiency, applicant elects to forgo further argument on these other limitations not present in the cited patents. In foregoing discussion of these additional limitations not present in the cited patents, applicant does not waive his right to fully discuss the other limitations, if necessary, in the future.

#### **Claims 3, 4, 46 and 56**

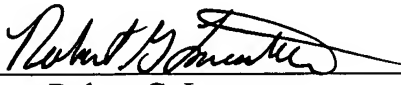


Claims 3, 4, 46 and 56, all of which depend from claims 1, 44 and 54, respectively, stand rejected under 35 U.S.C. § 103(a) as being obvious and unpatentable over Gelhard in view of Rudwick, U.S. Patent 4,280,581. The Examiner contends that “Gelhard discloses the previously recited elements, but does not disclose the rear hub as having internal gears.”

However, as in the previous rejection above, because the Examiner’s foundational assertion, that Gelhard discloses a uni-directional drive engaging the rotatable assembly of the motor and the pedal crank assembly, no longer applies due to the clarification and the amended claims 1, 44 and 54, this rejection cannot stand. Accordingly, obviousness is not present because the combination of the cited references does not teach or suggest all of the limitations of the independent claims 1, 44 and 54. *See In re Royka*, 490 F.2d 981, 985 (CCPA 1974); MPEP § 2143.03. For these reasons, applicant respectfully submits that the rejected claims are nonobvious and allowable. Applicant respectfully asserts that the rejection under Section 103 should be withdrawn.

In view of all of the foregoing, reconsideration and withdrawal of the rejections, and allowance of all claims, respectfully are solicited. The examiner is encouraged to contact the undersigned via telephone to resolve any outstanding issues.

Respectfully submitted,

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